

REMARKS

In response to the final office action, the applicants are filing a Request for Continued Examination under 37 C.F.R. § 1.114.

Claims 1-26 were finally rejected in the final Office Action. In this response, the applicants have amended claims 1 and 24, and have added claim 27. The applicants respectfully request reconsideration of the present application in view of the foregoing amendments and following reasons.

In the Office Action, claims 1-26 were rejected under 35 U.S.C. § 102(e) as being anticipated by Blumenau et al. (U.S. 6,493,825). The applicants respectfully traverse these rejections.

The applicants' representative thanks Examiner Volper for his telephonic interview of June 15, 2004. The Examiner's comments during the interview were very helpful in helping the parties understand the Examiner's position. During the interview, the parties discussed Blumenau et al. (U.S. Patent No. 6,493,825) and claim 1 of the applicants' application. Further details of the substance of the interview may be found below. If Examiner Volper needs any further information relating to the interview, he is requested to contact the undersigned attorney.

Overviews of the applicants' technology and the Blumenau reference were provided in the applicants' previous amendment. The applicants provide these further characteristics that distinguish their technology from that disclosed in Blumenau:

The last office action equates Blumenau's "virtual port mapping table 282" to applicants "virtual connection cache." Assuming, *arguendo*, that the concepts are related, Blumenau's virtual port mapping table, as illustrated in Figure 25 and described beginning at 24:61, indicates that a virtual port can be associated with multiple LUNs. Specifically, at 25:1-4, Blumenau describes that a virtual port can be associated with a "set of LUNs" or a

"set of logical storage volumes." (See also Blumenau at 21:51-2). Separately, Blumenau also describes that a virtual port is associated with a host. Thus, in Blumenau, there is a one-to-many relationship between a given host and multiple storage volumes. Moreover, Blumenau indicates that the virtual port mapping table contains a "LUN TO LOGICAL VOLUME MAP" which maps a virtual port to a set of LUNs. (See, e.g., Blumenau at 24:61-25:4.) The Examiner appears to recognize this concept as the Office Action states that the "virtual port mapping table clearly identifies a specific host initiator and associated specific logical target devices...." (Page 3, paragraph 1; note plural "devices.")

In sharp contrast, the applicants' specification makes clear a substantial distinction in the applicants' virtual connection cache: there is only a one-to-one relationship between hosts and storage devices, and not a one-to-many relationship as in Blumenau. For example, at page 17 of the applicants' specification, beginning at line 15, and as described by the applicants' representatives by telephone on June 15, the applicants' "virtual connection is [a] connection between a specific initiator and a specific logical or physical target LUN or device." In other words, there is a one-to-one relationship between the host initiator and the target storage device.

Furthermore, the applicants' virtual connection cache stores information relating to previously established virtual connections. As previously described, Blumenau's virtual port mapping table is a mapping of an association between hosts, virtual ports, and logical storage volumes. It indicates which connections are possible, and not which connections have already been established. By storing an indication of previously established connections, the applicants' technique speeds up connection establishment.

The applicants have amended independent claims 1 and 24 to indicate these limitations to distinguish over the Blumenau reference.

There are also other differences between Blumenau's virtual port mapping table and the applicants' virtual connection cache. Some examples are presented below, and other differences also exist:

1) The applicants' virtual connection cache indicates whether connections are valid or invalid. Blumenau's virtual port mapping table does not store such indications.

2) The applicants' virtual connection cache is dynamically updated to add new virtual connections when a requested connection does not exist. In contrast, in Blumenau's technique, when a relevant entry is not found in the virtual port mapping table, a request is simply denied. (See 26:22-26 and Figure 27.)

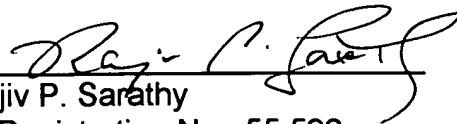
3) The applicants' technique distinguishes between first and subsequent requests in deciding whether to check whether a requested connection is allowable – the check is made only during the first connection request. Blumenau's technique does not distinguish between a first request and subsequent request, and checks the virtual port mapping table at every connection request. Under Blumenau, it is irrelevant whether a previously established connection has been made between a host and a storage volume – the virtual port mapping table would be checked for every request.

Independent claims 1, 24, and 27 recite features that are not disclosed in Blumenau. Consequently, Blumenau is removed as a § 102(e) reference. In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If additional fees are due with this request for continued examination that have not already been paid, please charge our Deposit Account No. 50-0665, under Order No. 254148006US from which the undersigned is authorized to draw.

Dated: July 20, 2004

Respectfully submitted,

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